

162/6/90

DARWIN INITIATIVE

FINAL REPORT

1. Basic Project Details

· *Project Title:*

Protection and Sustainable Use of the Plant Resources of the Tam Dao National Park, Vietnam

· *Contractor:* Botanic Gardens Conservation International (BGCI)

· *Host country collaborating institute(s):*

Centre for Research and Development of Ethnomedicinal Plants (CREDEP), Tam Dao National Park, Research and Training Centre for Community Development (RTCCD)

· *Grant Round:* Final

· *Grant Value:* £122,980

2. Project Expenditure

Total grant expenditure

1997/98	41,490
1998/99	42,590
1999/2000	36,500
Total	<u>£120,580</u>

Breakdown of expenditure (using expenditure categories in the original application form)

	1997/98	1998/99	1998/2000	Total
Rents, rates, heating, lighting, cleaning				
Postage, telephone and stationery				
Travel and subsistence(local and international)				
Printing				
Conferences, seminars etc.				
Capital items, (please specify) Horticultural equipment (irrigation pipes, shade structures, labels, tools etc.)				
Computer equipment and software				
Other (please specify) Horticultural consumables(chemicals, fertilisers, composts, etc.)				
Sub-total				
Cost of salaries (from previous table)				
<u>Total of spend*</u>				

Explain any variations in expenditure +/- 10%

All monies have been claimed from the Darwin Initiative and final payments to partners have been made. Publication costs are being held at BGCI until the draft of the guidelines has been completed and the cost for printing quoted in full. This will be completed by the end of September 2000.

3. Project Background/Rationale

Why was the project needed? Please explain the project development process.

Vietnam is a country that is rich in biodiversity but poor in resources. Recent changes in Vietnam have made it possible for international collaborative projects to be developed to support institutions in that country to undertake research and investigate safeguards for the future conservation of Vietnam's biodiversity. Vietnam has lost over 80% of its forest cover, partly as a result of warfare but also due to deforestation associated with the economic reconstruction since 1975 and pressure from an increasing population.

The forests of Vietnam are estimated to contain in the region of 12,000 plant species, a total comparable with that of Europe. Wild plants are widely and intensively, used by rural communities for medicine, food, fuel, timber and animal fodder. However, the Government of Vietnam is keenly aware of the problems associated with the loss of its forests and the decline of its biodiversity and has established a series of forest reserves and protected areas, including the Tam Dao National Park in which this project is based.

The project development process built upon a relationship formed during previous project collaboration with the Centre for Research and Development Ethnomedicinal Plants (CREDEP). CREDEP have worked for many years in this region and are all too aware of the need for project's with a practical application for the conservation of valuable local resources. CREDEP, who have a commitment to the promotion of health and traditional healing in the rural districts of Vietnam, originally approached BGCI regarding the possibilities of developing this project. The Tam Dao National Park, who are all too aware of the urgent need for research and sustainable harvesting guidelines, approached BGCI. They offered assistance to promote the establishment and the promotion of a botanic garden in the area and their support for the wider issues of plant conservation in the National Park.

CREDEP's experience in working with the Research and Training Centre for Community Development (RTCCD) assured them that the staff were both well trained and effective in the use of Rural Participatory Appraisal techniques (RPA) and in teaching conservation awareness. They were proved right in their choice and the staff of RTCCD were most valuable in encouraging local participation and securing local co-operation throughout the duration of this project.

How was it related to conservation priorities in the host country?

The Tam Dao National Park in which this project is based, urgently requires research to be undertaken on its biodiversity and the sustainable use of its plant resources. The project support national organisations to undertake this work, with guidance, technical assistance, support and close involvement from collaborators in the U.K and will it will also closely involve the local communities surrounding the National Park in the project. The project has helped to build the capacity of the National Park authorities to manage and safeguard the biodiversity of this protected area for the future and will act as a model for other projects in Vietnam. It is hoped that this work will become a catalyst for the development of similar work in other regions both nationally and internationally.

How was the project intended to assist the host country to meet its obligations under the Biodiversity Convention?

Vietnam has ratified the Convention on Biological Diversity (CBD). The authorities have completed a National Biodiversity Strategy and Action Plan. This includes a commitment to education and training, to biodiversity assessments and monitoring and to *in situ* and *ex situ* conservation measures. The project directly supports these requirements. By establishing a botanic garden and by catalysing further radical developments within the Tam Dao National Park authorities, the project has raised awareness and understanding about the issues of conservation and provided essential capacity building to the existing national body of scientists.

This Garden far from being limited to *ex situ* conservation, is clearly also active with *in situ* conservation and conservation out-reach programmes to the communities utilising local biodiversity. Both *ex situ* and *in situ* conservation is recognised by the Convention as important roles for national and international biological institutions to undertake.

The establishment of a botanic garden in the Tam Dao National Park is important within the national context of the Convention. Many other key activities undertaken by botanical gardens are specifically recognised within the text of the CBD as of fundamental importance to the conservation of biodiversity, such as research, training, identification and monitoring, public awareness, education and co-operation. The CBD recognises that botanic gardens can play a unique role, using their skills and resources and provide broadly based centres for the study and conservation of biodiversity.

Was there a clear 'end-user' for the project in the host country? Who?

The primary end-users in this project are the local communities who depend on wild harvesting for a vast range of plant species found in Tam Dao National Park. They will benefit from a) the supply of young propagules of useful plants from the Garden and b) from the training and knowledge that they have received. This will enable them to cultivate many of the species they previously collected from the wild.

The project closely involved the local communities living within the immediate area surrounding of the National Park and the buffer zone. These consisted of six communes (Minh Quang, Dai Dinh, Tam Quan, Ho Son, Tam Dao Town and Quan Chu) containing Kinh, Dao, San Diu and San Chay minority peoples (see attached Annex 2, 1998 report by RTCCD).

The project has created the impetus for the development and implementation of sustainable practices by local people. This will have a long term benefit to all who utilise the plant diversity found in the National Park. The Garden intends to undertake further environmental education for the benefit of local people and schools and will continue supplying propagules for starting new home gardens. The villages in the buffer zone and the areas immediately adjacent to this, will be the primary users and beneficiaries of these out reach resources.

The project was also involved in both supporting and promoting national institutional collaboration in Vietnam and effectively built up the capacity of the National Park authorities to manage and safeguard the biodiversity of this region for the future.

Internationally, this project has provided a valuable model for other projects and has been a catalyst for the development of similar work in other regions of the world (e.g. Ghana, BGC National Lotteries Charities Board funded project 1999-2001, (see attached article No. 1).

4. Project Objectives

What were the objectives of the project (as stated in the original application form)?

1. Investigate the useful and endangered plant species (medicinal plants, vegetables, fruits, timber, fuel wood and tubers) used by local people belonging to the Kinh, Dao, San Diu and San Chay minorities living in and surrounding Tam Dao National Park, northern Vietnam, with reference to their ecology, ethnobotany and economic value for rural development, to identify priorities for conservation and processes by which such conservation may be successfully undertaken.
2. Establish horticultural facilities and plantations, the botanic garden, in Tam Dao National Park to enable large numbers of important plants to be raised to safeguarding priority useful or endangered plant species, thereby helping to reduce pressure from wild collecting and to provide material for population reinforcement and reintroduction's.
3. Investigate anthropological and economical issues relating to native plants from the National Park in local communities and local markets to study the social and economic factors related to the harvesting, utility and conservation of the useful plant species.
4. Undertake trials on particular species for rural sustainable development. Trials will be

established in selected communities in the Park's buffer zone. Species selected will be based on the results of the investigations outlined above. An education programme for local people about natural resources protection and sustainable harvesting will be organised.

· *Were the objectives of the project revised? If so, how?*

No, the projects objectives were not revised.

· *Have the objectives (or revised objectives) been achieved? If so, how? N/A*

· *If relevant, what objectives have not been achieved, or only partially achieved, and why? N/A*

5. Project Outputs


(see the attached list of project outputs which we would like you to use in compiling this section of the report. NB. Not attached. FRD.)

· *What output targets, if any, were specified for the project? (Please refer to the project schedule agreed with the Department where relevant.)*

Project Outputs

TABLE B

Date	Output Ref No.	Details
1997/1998		
May 1997	✓ 6(a)	<i>1 person receiving training in U.K. in botanic garden management</i> Mr Tran Van On , the Project Manager in Vietnam, visited the UK for 4 weeks training in May 1997. Study visits were made to the Royal Botanical Garden Edinburgh and the Chelsea Physic Garden. He studied information systems for botanic garden collections management, project management, planning, undertook library research and studied medicinal plant conservation, botanic garden development and management and environmental education in botanic gardens.
	✓ 6(b)	<i>4 weeks of training provided. Completed.</i>
Nov 1997	✓ 6(a)	<i>11 people trained in Vietnam in field methodologies</i> Theoretical and field-based training was undertaken by BGCi staff and sample quadracts made. Tam Dao National Park staff were trained in ecological monitoring techniques and assisted in the establishment of twenty one quadracts in the forest for long-term monitoring.

✓ 6(B) 2 weeks training per person per year. Completed. ~~4 (10/11/97) 26~~ 

Dec 1997 ✓ 15 *level of media coverage for the project cannot be determined at this time.*

Progress reports were published in our journal and paper presented by the Project Manager, Professor Khanh at the Medicinal Plants Conference in Bangalore, India (see enclosed article No. 2).

Jan 1998 ✓ 20 *one operational nursery for the Tam Dao National Park*
A small botanic garden was built close to the Park's Headquarters. Four gardeners have been employed. Infrastructure maps and bedding plans have been drawn-up and discussed with the Park's senior management and staff. Hard landscaping was initiated, staff facilities built, a shade-house constructed containing sand beds and a wire boundary fence erected.

Feb 1998 ✓ 13 *two herbaria (Hanoi College of Pharmacy and Tam Dao National Park) enhanced by the addition of specimens gathered by the project*
The first plant collections were made in year one. A total of 300 specimens in year one. Duplicate sets of each voucher was collected and deposited in both the Headquarters in the Park and in the Hanoi College of Pharmacy Herbarium in Hanoi.

Mar 1998 ✓ 8 *8 weeks completed by UK project staff in host country*
Two successful visits were made by BGCi staff, one in October 1997 and the other in March 1998. The first visit involved one week of lectures and seminars and was attended by 20-25 members of the Park's staff. Training included botanic garden management, nursery techniques and ecological survey techniques. The second visit, by one member of the BGCi staff, facilitated one week of on-site training for the managers and staff of the botanic garden. 8 members of staff were trained in nursery practices, collection procedures, plant records management, accessioning procedures and software management. During this week a labelling system was established, record keeping books for on site receipt of collected material and propagation records was established and protocols for their use were instated.

1998/1999

June 1998 ✓ 6(a) *1 person receiving training in U.K. in botanic garden management*
In meeting this output BGCi arranged for the national Park's Director, Mr Do Tien and the Projects Manager in Vietnam to attend the fifth BGCi Congress in Cape Town for a period of one week.

Their attendance provided for these two key project partners to meet with other botanic garden managers and project leaders from around the world. Professor Khanh presented a paper to the Congress delegates on the project (see article No. 3).

- ✓ (b) *2 weeks of training provided.* Completed.
- Nov 1998 ✓ 6(a) *11 people trained in Vietnam in field methodologies*
11 National Park staff were trained for one week in field methodologies by Dr Steve Waldren. They studied plant-collection and field-herbarium techniques.
- ✓ (b) *2 weeks training per person.*
- Dec 1998 ✓ 15 *level of media coverage for the project cannot be determined at this time.*
A number of presentations were made both in the UK and overseas, in which this project has been sited as an example of a model project. The magazine *Plantlife*, has published a report on this project in the Summer of 1998 (see enclosed article No. 3) and in the paper presented by Professor Khanh is available on the web in the Proceedings of the South African Congress (www.nbi.ac.za/bgci98/html%20files/congkhan.htm and see enclosed article No. 4). *Botanic Gardens Conservation News* published update on the progress of the project (article No. 5).
- Feb 1999 ✓ 13 *two herbaria (Hanoi College of Pharmacy and Tam Dao National Park) enhanced by the addition of specimens gathered by the project*
The two herbaria continue to be enhanced by the addition of new plant specimens collected by staff of the project.
- Mar 1999 ✓ 8 *8 weeks completed by UK project staff in host country*
More than three weeks were spent by BGCi staff in Vietnam as well as further two weeks contact time by staff in Cape Town. It is anticipated that staff time will be required in Vietnam during the third year of the project, balancing staff in-country requirements over the three year period.
- Mar 1999 ✓ 14 *4 training courses organised in local villages*
Four training courses were organised by the in country Project Manager in the local villages adjacent to the Tam Dao National Park. The first of these courses were completed in January 1999. A local village hosted the course, which was taught by the staff of RTCCD. This course involved the participatory techniques demonstrating

biodiversity and conservation. A local farmer invited the trainees to his home in order for an afternoon's practical workshop to take place. During this workshop, propagation was demonstrated using low-tech resources and sustainable cultivation techniques.

1999/2000

- Nov 1999 ✓ 6(a) *11 people trained in Vietnam in field methodologies*
Two members of staff visited Vietnam in November, Dr Waldren for two weeks and Fiona Dennis for three weeks duration. National Park staff were trained in the use of Global Positioning Systems and data collection of wild collected material. Further nursery practices and propagation training was given to the staff of the Garden.
- ✓ (b) *2 weeks training per person. Completed.*
- Dec 1999 ✓ 15 *media coverage for the project.*
Project updates were published in Botanic Gardens Conservation News (article No. 6).
- Feb 2000 ✓ 20 *one operational botanic garden for the Tam Dao National Park*
The Garden of Useful Plants is now completed and has had additional facilities added by the Tam Dao Park authorities. The living collection has over 1,000 stock plants representing 330 different species and currently produces thousands of plants per year for both the local communities and as part of the reforestation work of the National Park. The Garden was officially opened in June 2000 by the acting British Ambassador Jane Owens.
- Feb 2000 ✓ 13 *two herbaria (Hanoi College of Pharmacy and Tam Dao National Park) enhanced by the addition of specimens gathered by the project*
This continues. Ferns collected by Dr Waldren have now been identified by specialists at the British Museum and labels with the correct collection and taxonomic details are being sent back to the duplicate collections in both of the herbariums in Vietnam. 596 voucher specimens have been collected, treated, mounted and are now stored in the Herbarium at Tam Dao.
- Feb 2000 ✓ 9 *series of guidelines for sustainable management of priority plants from National Park prepared (No. to be determined based on the results of the ecological and ethnobotanical research).*

Fully researched and documented. Design of guidelines and publication to be completed in September 2000.

Mar 2000

- ✓ 8 *8 weeks completed by UK project staff in host country*
Two weeks were spent by BGCi staff in Vietnam in June. Time was spent at the official opening of the Garden and in the 2-day seminar that followed. Future plans and strategies to continue the work of the project staff and the Garden were explored.

Mar 2000

- ✓ 14 *4 training courses organised in local villages*
These have been hosted in the villages of Dai Dinh, Minh Quang, Quan Chu and Tam Dao Town. These involved a total of 70 participants invited from the local communes.

Have these been achieved? If relevant, what outputs were not achieved, or only partially achieved, and why?

The final production of guidelines for the sustainable utilisation of useful plants has only been partially achieved. This was scheduled for completion by June 2000 but has now been programmed for completion in September. The information necessary for the guidelines has been documented and it just remains for the compilation and design of the guidelines to be finalised.

However, it will be important to return to the villages with the draft and discuss the ideas that the guidelines present and invite their comments and ideas. As much local participation as possible is needed to achieve the level of practical relevance that these guidelines need to have to make them worthwhile. However, projected staff time to be spent by BGCi in Vietnam has been reserved from the project to encompass a return trip to complete the guidelines and funding for the international flight has been secured.

Were any additional outputs achieved?

Support from the Tam Dao National Park authorities has resulted in the additional of a vast amount of land to the Garden (actual hectares to be confirmed). The authorities are intending to develop the area as a centre for environmental education and eco-tourism. The initial infrastructure build to establish the garden has now been extended to encompass a heavy-duty road and staff accommodation. These developments indicate that there will be a great deal of public as well as scientific interest in the forest. The opportunities for environmental education increase as the capacity of the Garden to receive visitors grows. This is a most promising development and has the wholehearted support of the local authorities.

If output targets were not specified, please state the outputs achieved by the project. As far as possible, we would like you to work through the list of outputs attached to this paper and to report on those which are relevant to your project.

Output targets were specified in full.

6. Project Operation/Management

Research projects - please provide a full account of the scientific work undertaken, outlining the methodology adopted, the staff employed and the research findings. The extent to which research findings have been subject to peer review should be addressed.

The results of the scientific work are enclosed in the form of a final report (see enclosed Annex 1) from the in country Project, Project Co-ordinator, Professor Khanh and the Project Manager, Tran van On. This report gives a full account of the scientific work undertaken and the methodology used throughout. This was a multi-disciplinary project and the methodologies used by each partner were those deemed appropriate for the task. Rather than repeat the process and findings of each partner, the report has been attached, in full.

However, in summary:

Participatory Rural Appraisal techniques (PRA) proved a valuable methodology in the local communities. These were the most appropriate means of working with entire village communities and ensured that the members of the rural communities were fully involved and not alienated from the processes of the project. The use of individual interviews and repeat visits by the staff of the RTCCD encouraged the co-operation and commitment of local people. The nature of the information gathered and the use to which that information was to be put meant that a trust and an understanding had to be established between the project staff and the participants

120 households were interviewed by RTCCD, using PRA and detailed information was gathered on the ethnic background of the participants, their use of plant material, their economic circumstances and the level of health care available to them. A thorough inventory of the plants used in the six communes was undertaken using free-listing interview techniques. 613 plants were identified. Of these 361 were of medicinal value, 86 used as vegetables, 104 as sources of timber and 104 different fruit trees were specified. 103 species were selected as locally rare and threatened species.

100 forest transect's were taken to document species diversity in the forest and to assess the ecological background to the species commonly utilized by local people. Data management software and techniques (DECODA and TWINSPAN) were explored and fully utilised to analyse the information gathered and verifiable conclusions were drawn from this baseline information

The results of this, multi-disciplinary research produced clear evidence of the common utilisation of plants, the differences between ethnic groups, and the ecological background against which wild harvesting is taking place. Conclusions regarding the definition of vegetation types and the experimentation to find appropriate propagation protocols for selected species, has provide critical data for use in the final guidelines for the use of wild harvested plants from the National Park in Tam Dao.

- *Training projects - please provide a full account of the training provided. This should cover the content of the training, arrangements for selecting trainees, accreditation, etc.*

The training elements of this project took part in the villages and communes of the locality around the Tam Dao National Park. The courses were hosted in the villages and were only made possible by the co-operation of the village leaders and by the sustained interest of the villages themselves.

The first part of the course covers conservation awareness raising hall in which the theory of conservation was discussed and explored and the second part, practical horticultural instruction takes place in the home of a participant. The practical involved the building of a small propagation unit. Minimal materials were used, largely of local extraction, to ensure low input technology and sustainable methodologies for the propagation and cultivation of useful plants.

Training for staff of the National Park involved class-room based theoretical study and practical demonstrations both in the Garden and in the field. Dr Peter Wyse Jackson lectured on the topic of botanic garden management and record keeping. Professor Khanh lectured on the flora and the threats to the plant diversity of the region. Fiona Dennis taught on the topic of horticultural techniques and nursery practices and Dr Steve Waldren demonstrated ecology and field techniques, including the use of a Global Positioning System (GPS).

Further training was undertaken in the field by Tran Van On during routine monitoring and inventorying of the forest transect's.

Five National Park staff were introduced to advanced software systems (DECODA and TWINSPAN) used to analyze the information gathered.

- *Did any issues or difficulties arise in running and managing this project?*

No difficulties were encountered during this project.

7. Project Impact

To what extent has the project assisted the host country to meet its obligations under the Biodiversity Convention, or to what extent is it likely to do so in the future? Please take account of the following in preparing this section of the report:

The way in which research findings have been used to address biodiversity objectives. What actions have been taken, or are expected to be taken, as a result of the project? How will these contribute towards the conservation of biodiversity in the host country concerned?

The extent to which training provision has improved the capacity of the host country to conserve biodiversity in the future, and the extent to which the training has addressed real skill needs. Information should be provided on what each student/trainee is now doing (or what they expect to be doing in the longer term), and the extent to which their skills are being used in a positive way to promote biodiversity conservation in the host country.

The wider impacts of the project in terms of the level of collaboration achieved between UK and host country institutions, and the prospects for greater joint working/information exchange in the future. To what extent has good collaboration been achieved?

Article 8 and article 9 of the CBD mentions the significance of both *in situ* and *ex situ* conservation. The establishment of a botanic garden in a country that has no other modern botanic garden and an otherwise very poor representation of botanical institutes has a great impact both locally and nationally. The establishment of a herbarium and a records system encourages technical and scientific co-operation (described in article 18 of the CBD) and promotes both access to resources and information (article 17 of the CBD).

Article 12 of the CBD specifies research and training and one of the primary objectives of this project has been the training element. The majority of the National Park staff had commercial forester training but knew nothing of conservation and the maintenance of wild ecosystems. As a consequence of the project, they have undergone a thorough grounding in the theory of field collections, record management and collections maintenance and experienced in-field training in monitoring and survey techniques. Staff of the Garden have been taught and now routinely practice, the horticultural skills of soft and hard wood cutting, seed storage and germination procedures, records management and nursery maintenance. The Garden stock plants are both representative of the variety of species found in the field and of the genetic diversity within the individual populations from which collections were made. All staff are aware of the importance of records, and the link between collections in the field, herbarium voucher specimens and propagated material on the nursery. The Gardens Manager and his deputy, have both been trained in the use of BGRecorder – the plants record management system – and regularly accession new material coming into the Garden.

Training for the villagers concentrated more upon the propagation and cultivation of species and less upon the representative collection of wild material. It became clear throughout the duration of the project that the process of selection and hybridisation of useful plants collected from the wild would be a natural process to occur as soon as plants came into cultivation. Far from being undesirable this indicated that future plant material is more likely to be taken from cultivated stock than from wild-sourced material. This will have a direct impact on the management of the forest and will promote the value of the forest as a source of material from which to propagate rather than to simply harvest. The project results have supported article 6 of the CBD, which calls for general measures for conservation and sustainable use.

The workshops and training sessions that have been conducted in the various villages that have become involved an explanation and exploration of the concepts of biodiversity, the 'web of life', sustainability and plant human interdependence. This achieved a greater understanding and awareness of conservation and the threats to the long-term survival of the forest resources. This project clearly encompasses article 13 of the CBD, which relates to the importance of public education and awareness raising.

The importance of research and recorded information on biodiversity is a keystone of the CBD (article 15, 17 and 18). Access and benefit sharing cannot be effectively managed without records' arrangement. The capacity of this garden to both document and to exchange its information with other institutes has now been established.

8. Sustainability

Did the host country institute(s) contribute resources to this project (these may have been provided in-kind, for example staff, materials etc)?

There was a great deal of support and enthusiasm for this project both from the Project partners in Vietnam and from the participants in the various training exercises. The National Park kindly provided accommodation throughout the time that overseas staff stayed in the National Park and food and transport was made available throughout our stay.

If so, what is the monetary value of the resources committed to the project by the host country institute(s)?

The average cost of hotel accommodation in the rural towns of northern Vietnam is approximately \$25 per night, meals may be \$5 and transport, depending on kind of vehicle can be anything from \$50 per day to \$1 for a bus ride. The number of nights that overseas staff stayed in the Headquarters of the National Park was approximately 65. We received three meals a day at an estimated value of \$5 per meal. We were met at the airport on each occasion and driven out to the National Park from Hanoi by National Park vehicles. The taxi rate for trips to and from the airport to Hanoi are estimated to be \$50 and the same again to hire transport from Hanoi to the National Park Headquarters.

Airport taxi (estimated value) \$50 x 6	=	300
Transport in Tam Dao (estimated value) \$25 per trip x 12	=	300
Accommodation (estimated at \$25 x 65	=	1,625
Meals (estimated value) \$5 x 3x 65	=	975
 Total		 <u>US\$3,200</u>

The total estimated value of these factors that were supplied to us *gratis* is \$3,200 at an exchange rate current at the time (\$1.65 = £1) this amounts to £1,940.

Any estimation of the total cost can only be very inexact and above all does not take into consideration many other factors. The time spent ensuring the comfort and security of foreign visitors and the impact that this invariable makes upon the daily routine of the staff of the National Park and the Hanoi College of Pharmacy is inestimable.

· *To what extent was Darwin funding a catalyst for attracting resources (including in-kind contributions) from other sources? Please provide details on the other sources from which resources were secured for this project.*

The remarkable outcome of this project has been the interest that it has generated with in the National Park authorities. The establishment of this small Garden as acted as a catalyst for extensive new plans for the future management of the Park. As yet, the final plans have not been confirmed, however, there are well advanced plans to build a very large garden adjacent, which will use the Garden as the primary nursery facility and as a propagation center for the community-wide greening activities of the Park authorities.

· *What is the monetary value of resources generated for the project from other sources (please provide an estimate for each funding source)?*

The cost of the Park's planned developments is not available to us. These are matters for the local administration, internal politics and economics to which we are not privy.

· *To what extent is work begun by the project likely to be continued in the future (if this is relevant - some projects may come to a natural end at completion)? This is more likely to be relevant for research-based projects.*

The Garden is now an integral part of the community home-gardens activities and the re-greening of the buffer zone surrounding the Park. Above all, this project has established a very positive relationship between the Park and the communities that use the Park's resources. Although many of the staff of the Park are from these local communities, the relationship in the past has been one of conflict and distrust. The illegal collecting of plant material from the Park has always placed the Park's authorities in the unenviable position of being the primary threat to the possible income to be made form the Park's resources. Regular confiscation's of wood and other non-timber forest products has resulted in a negative relationship between official and the local population.

The project has opened up a channel of discussion and co-operation in which the opinions and knowledge of both sides can be brought together with a mutual respect. The bridges built by the project's activities and by the people and staff of the National Park working together is likely to continue well into the future and will no doubt provide a catalyst for future work towards the sustainable management of the forest's resources.

- *Has the project acted as a catalyst for other projects/initiatives in the host country? Is it likely to do so in the future?*

All of the project partners and many of the participants have approached BGCI with invitations to collaborate in the future. At the final seminar held in May, the Head's of the commune's publicly requested that BGCI pursue the work of the current project. Furthermore they specified that they would like to the development of medicinal plant production unit's at local level in order to supply products for the local markets and generate income for the villages. Mr Do Dien Tien requests further international support to continue the inventorying of the National Park (see page 4 of the Final Report).

International links between the project managers both in-country and in the UK, have been made with the World Wide Fund for Nature (WWF)-Vietnam, Frontier-Vietnam, The World Conservation Union IUCN and the International Plant Genetic Resources Institute (IPGRI). The British Embassy are keen to continue our relationship and Steven Ray of DIFID in Hanoi, expressed interest in our continued work in the country.

Dr Waldren (Trinity College Botanic Garden) and Fiona Dennis (BGCI) are currently working on a joint project that will involve a further partnership between CREDEP and the Tam Dao National Park. It is intended that this project facilitates the exchange of staff and training skills between all partners and promotes capacity building in Vietnam using UK and the Republic of Ireland's expertise.

9. Outcomes in the Absence of Darwin Funding

- *Had Darwin funding been unavailable for the project, what would have been the most likely outcome:*

We would have persevered with funding applications to other donors.

- *The project would have proceeded with other funding? From whom?*

Applications would have been made to the National Lotteries Charities Board, the Cadbury Trust, the Department for International Development (DIFID) and the World Conservation Union IUCN Asia Regional Biodiversity Programme. The success or otherwise of these applications can not be guessed. However, the Cadbury Trust donated £5000 towards BGCI's continued research into the sustainability of the medicinal plant trade in northern Vietnam in 1999.

· *The project would have proceeded at a reduced scale? Please explain.*

No, the project could not have been undertaken at all, without specific funding.

· *The project would have been delayed? Please explain.*

Pending a successful funding application.

· *The project would not have proceeded?*

The project would not have proceeded if all channels of potential funding proved unfruitful.

· *Had this project not been undertaken, how would the users/beneficiaries of the project have met their requirements? Would other organisations/ initiatives have been able to meet their needs (at least to some extent)?*

It is unlikely that these partners would have undertaken the project without the international contribution that the Darwin Initiative made. The partners would however, have pursued funding for the project, in association with BGCI, and approached other donor agencies.

10. Key Points

· *What would you identify as the key success factors of this project?*

A number of our Vietnamese partners remarked on the unusual nature of this project. They considered that the collaboration between a number of national institutes and organisations to be unique and extremely helpful. The lack of rivalry and competition between each institution reflected the very different role that each played in the project and the overall coherence of the original project proposal.

The other key factor was the closeness that the local people had to their forest resources. It was not difficult to transmit ideas of conservation and the need for sustainable harvesting. The villagers were all farmers and as such had clear ideas about the need to diversify their crops and look for new niche markets. The closeness both in proximity and in tradition to the immediate forest territory to their village was reflected by a concern for the future availability of species and the need to take responsible action.

· *What were the main problems/difficulties encountered by the project?*

Language was, as always, a hindrance. Translators were not hired as such, though our partners were very good English speakers. The original strangeness of having foreigners arrive in the village was quickly overcome as it became clear that we all worked with plants and the challenge of their cultivation.

- *What are the key lessons to be drawn from the experience of this project? Please try to provide as much information on this point as you can so that others can learn from the experiences of your project.*

The key lesson learnt was the need to link cultivation projects with the market place. Without market considerations, a project is missing the final link to ensure it has endurance and remains a sustainable opportunity for the local population. As a result of this project a number of new species have been brought into cultivation. These will need marketing to ensure their long-term involvement in the farmer's annual cropping plans. Surprising opportunities presented themselves. For example, in one case, a vine commonly known as "Bo Khai", proved easy to cultivate (99% success rate). This is a delicacy in restaurants in the north east of Vietnam and has the potential to command high prices in the market place.

The principle of trial and error for propagation was established as an acceptable method of learning. It was recognised that we were setting ourselves a challenge to find out how to grow something and that there was no previous knowledge to call upon. This encouraged experimentation and self motivation in the villagers trying to establish their home gardens.

- *Does the experience of this project imply a need to review arrangements for developing and managing projects funded as part of this Initiative?*

BGCI and the partners have no problems to report regarding the role of the Darwin Initiative in this project. The reporting procedure requires both a six monthly and an annual contact with Darwin Initiative. This is a useful mechanism for maintaining a tight control on the objectives set and of keeping in contact with the funder.

It would be helpful for future applications to have indicators as to the type of project and region of the World in which the Darwin Initiative may have particular interest – if indeed that is the case. The Darwin Seminars are very useful for this purpose but perhaps a little clearer indication would be helpful. Time spent in application writing would be well spent if the project was broadly in the focal area for the Darwin Initiative.

11. Project Contacts

To assist future evaluation work, please provide contact details (name, current address, tel/fax number, e-mail address), for the following:

- *UK project leader (and other key UK staff involved in the project)*

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BGCI Consultant:
Dr Steve Waldren, Curator
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Trinity College, Dublin, Ireland

- *Host country project leader/co-ordinator (and other key people involved in the project at the host country collaborating institute)*

Project Co-ordinator
Professor Tran Cong Khanh
Center for Research and Development of Ethnomedicinal Plants (CREDEP)
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Hanoi, Vietnam

Project Manager
Mr Tran Van On
Department of Botany
Hanoi College of Pharmacy
13-15 Le Thang Tong Street
Hanoi, Vietnam

Vietnam

- *'End users' for the output produced by the project in the host country (ie. government departments, agencies, universities, local communities etc)*
Local Communities included:

Tam Dao Town, Minh Quang Commune and Dai Dinh Commune in Vinh Phuc Province and Quan Chu Commune in Thai Nguyen Province.

- *Project trainees/students*
- *Other project beneficiaries*
- *Other key players involved in the funding/operation/utilisation of the project.*

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PLEASE REMEMBER TO ATTACH COPIES OF ALL DOCUMENTATION
PRODUCED BY THE PROJECT IE. REPORTS, PAPERS,
MANUALS GUIDES, CONFERENCE/WORKSHOP PROCEEDINGS TRAINING
MATERIALS ETC

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